

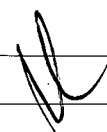
Work Order ID 133963

133963

Page 1

June 24-15 12:57:59 PM

Item ID: D6101-017 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Saddle Billet
 Start Date: 6/22/15 Start Qty: 24.00 *24* Cust Item ID:
 Required Date: 6/23/15 Req'd Qty: 24.00 *24* Customer:
 Reference:

Approvals: Process Plan:  Date: Tooling: Date: Run Start *NR1*
 QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D6101	B

100 PURCHASING 0.00

100

Purchasing

Purchasing

Memo

Issue P/O:

28945

- a) Description: Alluminum billet
- b) 6.350" x 6.250" x 2.250" thick (+0.030 / -0.000)
- c) Tolerance on all dimensions are +0.030"/-0.000"
- d) Grain direction along 6.350" length
- e) Material: 7075-T7351 (QQ-A-250/12)
- f) Material certification required

CZ JUN 25 2015 24

110 Receive & Inspect for Damage & Mat'l Certs 0.00

110

Packaging

Packaging

Memo

Ensure material certification is attached

24x 8015-07-B

Work Order ID 133963

133963

Page 2

June-24-15 12:57:59 PM

Item ID: D6101-017 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle Billet
 Start Date: 6/22/15 Start Qty: 24.00 ***24*** Cust Item ID:
 Required Date: 6/23/15 Req'd Qty: 24.00 ***24*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00				24	0		DAS 14 9-89 15/07/10
120									
QC	Memo	0.00							
Quality Control	Ensure Material certification comply to Dwg D6101								
130	Identify as per dwg & Stock Location: MAT 44	0.00				24	0		DAS 14 9-89 15/07/10
130									
Packaging	Memo	0.00							
Packaging	LOCATION: MAT044								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

MLJ JUL 14 2015

Picklist Print

June-24-15 12:57:58 PM

Page 1

Work Order ID: 133963

133963

Parent Item: D6101-017

D6101-017

Parent Item Name: Saddle Billet

Start Date: 6/22/15

Required Date: 6/23/15

Start Qty: 24.00

Required Qty: 24.00

Comments: IPP RevA: New issue DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D6101-017P

Purchased

No

110

Each

0.0000

1

24

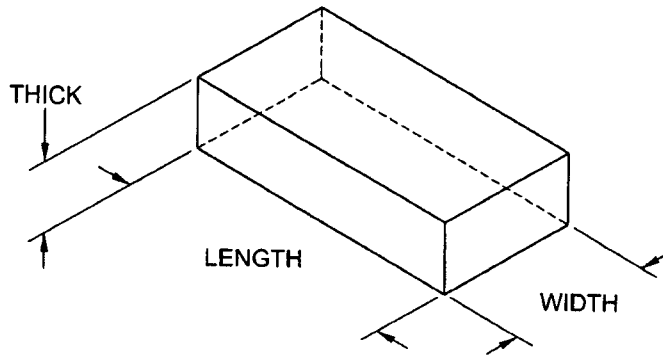
D6101-017P

**

ALUM BILLET

24 X 8015-0713.

SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

RELEASED
09/01/15/WP

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D6101	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SADDLE BILLET, 7075	NTS
DATE	09.04.23	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

SHOP COPY
 RETURN TO
 ENGINEERING
 DEPARTMENT
 133963445
 1506-84



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO28945

Purchase Order Date 6/25/2015

PO Print Date 6/25/2015

Page Number 2 of 3

Order From :

METAUX CASTLE
P.O. BOX 4090 STN A
TORONTO, ONTARIO M5W OE9
CANADA

VU-MET002

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

Buyer

Customer POID

Customer Tax #

Terms

Currency

FOB

Chantal Lavoie

10127-2607

Net 30

USD

Destination-Collect

3	D6101-017P	ALUM BILLET	7/13/2015	24.00			
			Yes	Each		\$64.75	\$1,554.00
			7/13/2015				

AS PER DWG D6101 REV. B

B133963

SIZE: 6.350" X 6.250" X 2.250" THICK

GRAIN DIRECTION ALONG 6.350" LENGHT

MATERIAL: 7075-T7351 QQ-A-250/12

TOLERANCE AS PER QUOTE +.030"/-.000"

Line Total: \$1,282.50

4	71401-45	PROCUREMENT QUALITY CLAUSES	7/13/2015	1.00		\$0.00	\$0.00
---	----------	--------------------------------	-----------	------	--	--------	--------

No

7/13/2015

Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

Line Total: \$1,554.00

Note:

6/25/2015

DAS
28
9-89

JUL 13 2015

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 2

Shipment No:2660626

Ship From: A. M. Castle & Co. TORONTO - CASTLE METALS 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 10-JUL-2015	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier MANITOULIN		BOL No 2660626-2	

Shipment Details	Final Destination Branch - TOR
-------------------------	---------------------------------------

Order No	Line No	Item No	Description				
3950530	3	750704.MO	2.2500.PL.7075.T7351.ALUMINUM.US1.48.5000.144.5000 CUT 2SIDED TO 6.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 6.35")) X 6.35 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 6.35")) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12				
Purchase Order No		Part Number	Ordered Qty		Invoice Qty		
28945		YOUR ITEM NUMBER: D6101-017	24.00 PCS		24.00 PCS		
Details		PIECES MUST BE IDENTIFIED WITH HT # SHIP TO CASTLE, MONTREAL (POINTE-CLAIRE) CUSTOMS BROKER: GEORGE H. YOUNG (VALUE: \$ 732.00 U.S.) END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS					
Delivery No.	Mill	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)
120106728	KAISER ALUMINUM			24			220.6889

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned.

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law prohibited.

Date Printed: 10-JUL-2015 05:05:34 PM



Castle Metals®

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 2 of 2

for credit.	
Reviewed by Authorized Castle Metals Representative:	Date: Name:

Mike Burchett

JUL 10 2015



DAS
28
9-89

JUL 13 2015

SHIP TO:

A M CASTLE & CO
3050 SOUTH HYDRAULIC
WICHITA, KS 67216

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215

Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number

4346544

SOLD TO:

AM CASTLE & CO- SOLD TO
1420 KENSINGTON RD
SUITE 220
OAK BROOK, IL 60523

CUSTOMER PO NUMBER: 296921		WORK PACKAGE: 750704		CUSTOMER PART NUMBER:		SHIP RUN/LOAD: 103010/16		GOV'T CONTRACT NUMBER:	
KAISER ORDER NO: 1177374	LINE ITEM: 1	SHIP DATE: 15-SEP-2014	ALLOY: 7075	CLAD: BARE	TEMPER: T7351	PRODUCT DESCRIPTION: KaiserSelect Plate			
WEIGHT SHIPPED: 3282 LB	QUANTITY: 2 PCS EST.	TRUCK B/L #: 2049832		GAUGE: 2.2500 IN (67.1500 MM)	DIAMETER/WIDTH: 48.500 IN (1231.9 MM)		LENGTH: 144.500 IN (3670.3 MM)		

MHU 1814710: LOT 690744A8 2 pieces;

Certified Specifications

DAS

14-
9-89

15/07/13

AMS 4078/RevJ
ASTM B 209/Rev10
BSS 7055/RevB
DPS 4.713/RevAK
GSS16100/RevG/Amd1

AMS-QQ-A-250/12/RevA
ASTM B 594/Rev13
CMMP 025/RevU
EAC MS1011/RevE
MMS 159/RevT

AMS-STD-2154/RevA
BAC 5439/RevJ
CSTI 006/RevE
GAMPS 9101/RevB/AmdSCN1
PS 21211/RevM

Test Code: 4297

Test Results

Lot: 690744A8 Cast 650

Drop 12

Ingot 3

Melted in USA

(ASTM E8/B557)

(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	70.6 : 71.5 (487 : 493)	59.8 : 61.1 (412 : 421)	11.9 : 12.0

(ASTM E1004)

(EN 2004-1)

Conductivity %IACS :	41.4 Min	41.7 Max
(MS/M) :	24.0 Min	24.2 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.08	0.17	1.4	0.04	2.4	0.19	5.7	0.03	0.01	0.01	TOT 0.05



KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4346544

ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

ORDER COMMENTS

AMC CA-154138 R 6

AMS 4078, AMS QQ-A-250/12, AMS STD-2154, A

STM B209, ASTM B594, B5

S 7055, CMMP Q25, CSTI 006, DPS 4.713, GAMP

S 9101, MMS 159, PS 212

11

TEST NOTES

Metal represented by this test report was 100% immersion ultrasonically tested from one side with 3mm dead zones top and bottom and meets the Class A and Class B requirements of all specifications referenced on this test report. No surface marking of sonic indications is performed.



CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC (Kaiser), is ISO 9001:2008/AS9100C certified and hereby certifies that all material shipped under this order:

* has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements.

* was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.

* has been thermally processed in compliance with AMS 2772, where applicable.

* is mercury free, within the limits of detection of ASTM E1251 (< = 1ppm).

* is in compliance with RoHS 2, European Union Directive 2011/65/EU.

* is in compliance with and regularly monitors any updates to the European Chemical Agency, ECHA, REACH regulations. (EC) n°1907/2006.

* is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.

Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under Federal law.

JAMES HEMENWAY, LABORATORIES SUPERVISOR



Castle Metals®

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 2 of 2

120106727	KAISER ALUMINUM			8			85.3248
-----------	--------------------	---	--	---	--	--	---------

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:

Mark B. Smith

Date:

Name:

JUL 10 2015



MATERIAL RECEIPT INSPECTION FORM

MATERIAL: DL6101-017
 DATE: 15/07/13

PO / BATCH NO.: 28945/133963

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 24
 QUANTITY INSPECTED: 24
 QUANTITY REJECTED: _____

THICKNESS ORDERED: 6.350X6.250X2.250
 THICKNESS RECEIVED: 6.350X6.250X2.30
 SHEET SIZE ORDERED: _____
 SHEET SIZE RECEIVED: _____

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y ☒	
CORRECT FINISH	☒ N	
CORROSION	Y ☒	
CORRECT GRAIN DIRECTION	☒ N	
CORRECT MATERIAL	☒ N	
CORRECT THICKNESS	☒ N	
PHOTO REQUIRED	Y ☒	
CORRECT MATERIAL	☒ N	
CORRECT REF # TO LINK CERT	☒ N	
CORRECT MATERIAL IDENTIFICATION	☒ N	
CORRECT M# ON THE MATERIAL	☒ N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y ☒	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y ☒	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC-18 INSPECTION INSPECTED BY: <u>DAS 14</u> DATE: <u>15/07/13</u>	ENGINEERING SIGNOFF (if required) SIGNED OFF BY: _____ DATE: _____
---	---

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

MATERIAL RECEIPT INSPECTION FORM

INSTRUCTIONS FOR INSPECTING BAR, TUBING, ROUND, & SHEET STOCK

- 1- VERIFY STOCK TO DART PURCHASE ORDER
- 2- MEASURE ALL DIMENSIONS FOR EACH PURCHASED STOCK
 - a. WIDTH, THICKNESS, DIAMETER, WALL THICKNESS & LENGTH
- 3- VERIFY CONDITION OF MATERIAL i.e. DAMAGED, CORRODED, etc.
- 4- VERIFY THAT SUPPLIER HAS A NUMBER (HEAT #) ON ITS RECEIVING REPORT TO LINK TO MATERIAL CERTS
- 5- VERIFY MATERIAL CERTS ARE CORECT TO THE DART PO INSTRUCTIONS
- 6- REMOVE / CUT A PIECE OF MATERIAL FOR SAMPLE HARDNESS TESTING

INSTRUCTIONS FOR INSPECTING SKIDTUBE & STEP EXTRUSION

- 1- VERIFY TO DART SUPPLIED DRAWING
- 2- SAMPLE INSPECT MATERIAL IN BUNDLE TO ENSURE MATERIAL CAN BE RECEIVED INTO DART
- 3- USING PORTABLE HARDNESS TESTER VERIFY HARDNESS OF THE MATERIAL TO THE DRAWING
- 4- VERIFY THAT MATERIAL CERTS MATCH TO WHATS CALLED UP ON THE DART DRAWING

AFTER MATERIAL PASSES INSPECTION

- 5- HAVE DART EMPLOYEES START STOCKING MATERIAL BUT REQUEST MIN **20pcs** FOR FULL INSPECTION
- 6- INSPECT ALL DIMS AS PER DRAWING REQUIRMENTS

INSTRUCTIONS FOR INSPECTING CROSS TUBE MATERIAL

- 1- VERIFY MATERIAL CERTS MATCH THE REQUIRMENTS ON THE DART DRAWINGS
- 2- INSPECT MIN. HALF THE BATCH OF EXTRUSION RECEIVED INTO DART
- 3- INSPECT MATERIAL AS PER THE EXTRUSION REPORT
 - a. WALL THICKNESS USING ULTRA-SONIC IN 4 LOCATIONS
 - b. OUTSIDE DIAMETETER HIGHEST/LOWEST BOTH ENDS
 - c. INSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - d. STRAIGHTNESS @ CENTER OVER 12" SPAN
 - e. WALL THICKNESS USING TUBE MICROMETER HIGHEST/LOWEST BOTH ENDS
- 4- IDENTIFY EACH TUBE IN SEQUENCE OF INSPECTING (TUBE 1, TUBE2.....) AND W/O# AND PO#
- 5- RECORD ALL FINDINGS ON EXTRUSION REPORT

IF ANY QUESTIONS PLEASE SEE QC CORRDIRATOR BEFORE GOING FURTHER